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EXAMINER

LI, SHI K

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 11/20/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,001

Applicant(s)

PUGEL, MICHEL ANTHONY

Examiner

Shi K. Li

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Tigwell (U.S. Patent 5,227,780).

Tigwell discloses in FIG. 1 a first control device for transmitting an RF signal. Tigwell further discloses in FIG. 2 a second control device for receiving the RF signal and transmitting an IR control signal. Tigwell teaches in col. 4, lines 42-56 the use of amplitude modulation.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 6, 8, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington (U.S. Patent 4,897,883) in view of Tigwell (U.S. Patent 5,227,780).

Harrington discloses a remote control system in FIG. 1. FIG. 1 comprises a first control device 3 for transmitting a first IR control signal 16, a second control device 5, a third control device 4 and a IR controllable device 1. Harrington shows in FIG. 3 and FIG. 4 the structure for second control device and third control device and teaches that second control device and third

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control device communicate via RF signal. The difference between Harrington and the claimed invention is that Harrington does not use amplitude shift keying modulation for the RF signal. Tigwell teaches in col. 3, lines 3-17 the use of a 7-bit data word for conveying the information, including the IR carrier frequency, from the second device to the third device. Tigwell also teaches in col. 4, lines 42-44 the use of amplitude modulation. One of ordinary skill in the art would have been motivated to combine the teaching of Tigwell with the remote control system of Harrington because amplitude modulation is simple and cost effective. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use amplitude shift keying for modulating the signal, as taught by Tigwell, in the remote control system of Harrington because amplitude modulation is simple and cost effective.

Regarding claims 6 and 8, dotted box 14 of FIG. 1 of Harrington suggests to put the first device and the second device in an enclosure.

5. Claims 2, 3, 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington (U.S. Patent 4,897,883) in view of Eisaku (Japan Patent Publication P2001-8278A).

Harrington discloses a remote control system in FIG. 1. The remote control system comprises a first control device 3 for transmitting a first IR control signal 16, a second control device 5, a third control device 4 and a IR controllable device 1. Harrington shows in FIG. 3 and FIG. 4 the structure for second control device and third control device. The difference between Harrington and the claimed invention is that Harrington does not teach to send IR carrier frequency as data information. Eisaku teaches in FIG. 1, FIG. 7 and FIG. 9 to send a signal identifying the IR carrier instead of sending data in the IR carrier frequency. Such technique can be used between the first device and the second device, and/or between the second device and

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the third device. One of ordinary skill in the art would have been motivated to combine the teaching of Eisaku with the remote control system of Harrington because Eisaku's approach simplifies the design and reduces the number of component as pointed out in the abstract of Eisaku. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to send a code representing the IR carrier frequency instead of sending data using the IR carrier frequency, as taught by Eisaku, in the remote control system of Harrington because Eisaku's approach simplifies the design and reduces the number of component.

Regarding claim 7, Eisaku illustrates in FIG. 1 a plurality of third control devices with a single second control device.

6. Claims 4-5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington (U.S. Patent 4,897,883) in view of Eisaku (Japan Patent Publication P2001-8278A) and Tigwell (U.S. Patent 5,227,780).

Harrington discloses a remote control system in FIG. 1. The remote control system comprises a first control device 3 for transmitting a first IR control signal 16, a second control device 5, a third control device 4 and a IR controllable device 1. Harrington shows in FIG. 3 and FIG. 4 the structure for second control device and third control device. The differences between Harrington and the claimed invention are (a) Harrington does not teach to send IR carrier frequency as data information, and (b) Harrington does not teach the use of amplitude shift keying modulation. Eisaku teaches in FIG. 1, FIG. 7 and FIG. 9 to send a signal identifying the IR carrier instead of sending data in the IR carrier frequency. Such technique can be used between the first device and the second device, and/or between the second device and the third device. One of ordinary skill in the art would have been motivated to combine the teaching of

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Eisaku with the remote control system of Harrington because Eisaku's approach simplifies the design and reduces the number of component as pointed out in the abstract of Eisaku. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to send a code representing the IR carrier frequency instead of sending data using the IR carrier frequency, as taught by Eisaku, in the remote control system of Harrington because Eisaku's approach simplifies the design and reduces the number of component.

The modified remote control system of Harrington and Eisaku still fails to teach amplitude shift keying modulation. However, amplitude shift keying modulation is well known in the art. For example, Tigwell teaches in col. 4, lines 42-44 the use of amplitude modulation. One of ordinary skill in the art would have motivated to combine the teaching of Tigwell with the modified remote control system of Harrington and Eisaku because amplitude modulation is simple and cost effective. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use amplitude shift keying for modulating the signal, as taught by Tigwell, in the modified remote control system of Harrington and Eisaku because amplitude modulation is simple and cost effective.

7. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington, Eisaku and Tigwell as applied to claim 4 above, and further in view of Anderson et al. (U.S. Patent 6,130,910).

Harrington, Eisaku and Tigwell have been discussed in regard to claims 4 and 5. The difference between Harrington, Eisaku and Tigwell and the claimed invention is the method of modulating the RF transmitter. Anderson et al. teaches in FIG. 1 an efficient way of modulating the transmitter by modulating the power supply of the power amplifier 260. One of ordinary

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skill in the art would have been motivated to combine the teaching of Anderson et al. with the modified remote control system of Harrington, Eisaku and Tigwell because the method of Anderson et al. is highly efficient and especially suitable for handheld or portable devices. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modulate the power supply with the control signal, as taught by Anderson et al., in the modified remote control system of Harrington, Eisaku and Tigwell because the method of Anderson et al. is highly efficient and especially suitable for handheld or portable devices.

Regarding claim 10-12, it is well known in the art that modulation index affects efficiency, distortion etc. and is a design parameter that can be adjusted based on the applications.

8. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tigwell (U.S. Patent 5,227,780) in view of Eisaku (Japan Patent Publication P2001-8278A).

Tigwell discloses in FIG. 1 a first control device for transmitting an RF signal. Tigwell further discloses in FIG. 2 a second control device for receiving the RF signal and transmitting an IR control signal. Tigwell suggests in col. 4, lines 42-56 the use amplitude modulation. The difference between Tigwell and the claimed inventions is that Tigwell does not teach to use a code to identify IR carrier. Eisaku teaches in FIG. 1, FIG. 7 and FIG. 9 to send a signal identifying the IR carrier instead of sending the carrier. One of ordinary skill in the art would have been motivated to combine the teaching of Eisaku with the first control device of Tigwell because it simplifies the design and reduces the number of component as pointed out in the abstract of Eisaku. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to send a signal identifying the IR carrier instead of sending the carrier,

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as taught by Eisaku, in the first control device of Tigwell because the approach simplifies the design and reduces the number of component.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 703 305-4341. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-3900.

skl


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